

AD-A208 847

DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

2a. SECURITY CLASSIFICATION AUTHORITY			1b. RESTRICTIVE MARKINGS		
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE			3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution unlimited.		
4. PERFORMING ORGANIZATION REPORT NUMBER(S)			5. MONITORING ORGANIZATION REPORT NUMBER(S) AFOSR-TR-89-0601		
6a. NAME OF PERFORMING ORGANIZATION University of Florida Center for Mathematical Services		6b. OFFICE SYMBOL (if applicable)	7a. NAME OF MONITORING ORGANIZATION AFOSR		
6c. ADDRESS (City, State, and ZIP Code) Tampa, FL 33620		7b. ADDRESS (City, State, and ZIP Code) BLDG 410 BAFB DC 20332-6448			
8a. NAME OF FUNDING/SPONSORING ORGANIZATION AFOSR		8b. OFFICE SYMBOL (if applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER F49620-79-C-1020-0102		
8c. ADDRESS (City, State, and ZIP Code) BLDG 410 BAFB DC 20332-6448		10. SOURCE OF FUNDING NUMBERS			
		PROGRAM ELEMENT NO. 61102F	PROJECT NO. 2304	TASK NO. A3	WORK UNIT ACCESSION NO.
11. TITLE (Include Security Classification) INVESTIGATIONS IN IMPROVED ITERATIVE METHODS FOR SOLVING SPARSE SYSTEMS OF LINEAR EQUATIONS					
12. PERSONAL AUTHOR(S) E.B. Saff					
13a. TYPE OF REPORT Final		13b. TIME COVERED FROM Jun 79 TO 31 May 80		14. DATE OF REPORT (Year, Month, Day) 22 August 1980	
				15. PAGE COUNT 3	
16. SUPPLEMENTARY NOTATION					
17. COSATI CODES			18. SUBJECT TERMS (Continue on reverse if necessary and identify by block number)		
FIELD	GROUP	SUB-GROUP			
19. ABSTRACT (Continue on reverse if necessary and identify by block number)					
<div style="text-align: right; font-size: 2em; font-weight: bold;">DTIC ELECTE JUN 07 1989 S H D</div> <div style="text-align: center; font-size: 1.5em; font-weight: bold;">80 9 06 034</div>					
20. DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS RPT. <input type="checkbox"/> DTIC USERS			21. ABSTRACT SECURITY CLASSIFICATION Unclassified		
22a. NAME OF RESPONSIBLE INDIVIDUAL			22b. TELEPHONE (Include Area Code) 767-5025		22c. OFFICE SYMBOL NM



AFOSR-IR. 89-0601

Final Scientific Report

Grant AFOSR F49620-79-C-0102

*Investigations in Improved Iterative
Methods For Solving Sparse Systems of
Linear Equations*

Submitted by:

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Center for Mathematical Services
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Accession For	
NTIS GRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	

Date: August 22, 1980

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Final Scientific Report for [REDACTED] F49620-79-C-0102

June 1, 1979 - May 31, 1980

E. B. Saff, Principal Investigator

The research conducted by the above principal investigator during the period June 1, 1979 to May 31, 1980, has resulted in the following research articles which have either appeared in print, or have been accepted in refereed mathematical journals, in this period.

1. M. Lachance, E. B. Saff, and R. S. Varga, "Inequalities for polynomials with a prescribed zero"; Math. Zeit. 168(1979), 105-116.
2. N. Anderson, E. B. Saff, and R. S. Varga, "On the Eneström-Kakeya Theorem and Its Sharpness"; Linear Algebra and Appl. 28(1979), 5-16.
3. M. Lachance, E. B. Saff, and R. S. Varga, "Bounds for incomplete polynomials vanishing at both endpoints of an interval"; Constructive Approaches to Mathematical Models (C. V. Coffman and G. J. Fix, ed.), pp. 421-437, Academic Press, Inc., New York, 1979.
4. E. B. Saff and R. S. Varga, "Remarks on some conjectures of G. G. Lorentz", J. Approximation Theory (to appear).
5. E. B. Saff and R. S. Varga, "On incomplete polynomials. II", Pacific J. Math. (to appear).
6. N. Anderson, E. B. Saff, and R. S. Varga, "An extension of the Eneström-Kakeya Theorem and its sharpness", SIAM J. Math. Anal. (to appear).
7. M. G. de Bruin, E. B. Saff, and R. S. Varga, "On zeros of generalized Bessel polynomials"; Indag. Math. (to appear).

8. R. S. Varga, E. B. Saff, and V. Mehrmann, "Incomplete factorizations of matrices and connections with H-matrices", SIAM J. Num. Anal. (to appear).
9. M. G. de Bruin, E. B. Saff, and R. S. Varga, "On two conjectures on the zeros of generalized Bessel polynomials", Proceedings of the Lorentz Conference on Approximation Theory III, held in Austin, TX, in January, 1980 (to appear).
10. E. B. Saff, J. L. Ullman, and R. S. Varga, "Incomplete polynomials: an electrostatic approach", Proceedings of the Lorentz Conference on Approximation Theory III, held in Austin, TX, in January, 1980 (to appear).
11. E. B. Saff, "An Introduction to the Convergence Theory of Padé Approximants", Conference Proceedings, Aspects of Contemporary Complex Analysis, held in Durham, England, in 1979; Academic Press (to appear).